

REMARKS

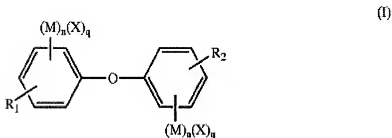
Claims 1-4 are pending in the present application. Reconsideration and withdrawal of the present rejections in view of the comments presented herein are respectfully requested.

Rejection under 35 U.S.C. 103(a)

Claims 1-4 were rejected under 35 U.S.C. 103(a) as being obvious over Sato et al. (U.S. 5,985,525) in view of Anzures et al. (U.S. 6,900,003), and vice versa. The Examiner alleges that it would have been obvious to include an alkali metal salt of a diphenyl oxide containing group for the advantage of reducing residue in a developing solution and/or on a developing substrate as allegedly disclosed by Anzures et al. The Examiner also contends that it would have been obvious to use an organic quaternary ammonium (base) for reasonable expectation of obtaining an alkaline solution to remove a soft portion of a layer as disclosed by Sato et al. However, as explained below, this combination of references would not render the claimed invention obvious.

In fact, the Sato et al. reference teaches away from the claimed invention. The Sato et al. reference discloses a developer composition comprising an organic quaternary ammonium base and a specific ammonium salt of alkyl diphenyl ether sulfonic acid. It should be noted that Sato et. al. clearly teaches that a developer composition in the field of semiconductors contains no metallic element which contaminates the semiconductor devices (see Sato et al. at column 1, lines 24-29 of Sato et al.). Thus, in view of Sato et al., a person of ordinary skill in the art of semiconductors would not use an alkali metal salt of an alkyl diphenyl ether sulfonic acid as recited in the present claims because such salts are taught to be deleterious to the semiconductors produced using the metal-containing developer compositions.

Anzures et al. discloses a diphenyl oxide represented by the following formula (I):



Anzures teaches that in formula (I) above, X is preferably hydrogen, sodium, calcium, potassium or ammonium, and M is preferably $-SO_3^-$, $-PO_4^{3-}$ or $-PO_4(R')_2$ (see column 6, lines 42 to 44 of

Anzures). Therefore, the diphenyl oxide represented by formula (I) above satisfies the requirements of the present invention only when M is -SO_3^- and X is sodium, calcium or potassium.

However, if a person skilled person in the art were to combine Anzures with Sato or vice versa, in view of the deleterious effects of metallic elements on semiconductors (contamination of semiconductor devices), a diphenyl oxide represented by formula (I) above wherein X is sodium, calcium or potassium would certainly not be chosen to include in the claimed developer composition. Rather, a diphenyl oxide in which X is a non-metal, i.e. hydrogen or ammonium, would be used. Such a diphenyl oxide might be regarded as being advantageous in view of the teachings of Sato et al. However, in view of the explicit teachings of the Sato et al. reference, one of ordinary skill in the art would not combine Anzures with Sato or vice versa, in a manner that the developer composition of the claimed invention would be obtained. Therefore, there is no *prima facie* case of obviousness over the combination of these references.

Further, as stated by the Applicants in their response filed April 27, 2007, with respect to the excellent effect of metals over ammonium (high dissolution rate), evidence can be seen at least from a comparison of Examples 4, 9, 10 and Comparative Example 1 of the present application. Since none of the cited references have any teaching or suggestion of the unexpectedly beneficial effects of metals over ammonium (high dissolution rate), the superiority of the developer composition of the claimed invention could not have been predicted based on the cited references. These unexpected results further evidence the nonobviousness of the presently pending claims.

Tanaka et al. (U.S. 5,543,268) and Tanaka et al. (U.S. 6,329,126)

The Examiner alleged that Tanaka et al. (U.S. 5,543,268) and Tanaka et al. (U.S. 6,329,126) have about the same teachings and suggestions as those in Sato et al. and are therefore cumulative. As discussed above in relation to Sato et al., each of Tanaka ('268) and Tanaka ('126) discloses a developer composition comprising an organic quaternary ammonium base and a specific ammonium salt of alkyl diphenyl ether sulfonic acid. It should be noted that these patent documents clearly teach that a developer composition in the field of semiconductors contains no metallic element which contaminates the semiconductor devices (see Tanaka '525 at column 1, lines 48-62, and Tanaka '126 at column 1, lines 50-64. Thus, the same arguments

presented above regarding the Sato et al. reference also applies to the Tanaka et al. references since, as acknowledged by the Examiner, these references have about the same teachings as Sato et al. (see Office Action at page 5, section V).

In view of the comments presented above, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. 103(a).

CONCLUSION

Applicants submit that all claims are in condition for allowance. Should there be any questions concerning this application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Respectfully submitted,

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